What is claimed is:

1. A multi-stage dynamic brake resistor network comprising:

a plurality of dynamic brake resistors for dissipating regenerative energy inputted onto a system bus;

a plurality of switches for connecting the dynamic brake resistors to and from the system bus, respectively; and

a control circuit for controlling the switches such that the dynamic brake resistors are connected to and from the system bus based on a predetermined voltage threshold of the system bus and based on a predetermined rotation pattern.

2. The multi-stage dynamic brake resistor network according to claim 1, wherein the multi-stage dynamic brake resistor network has four dynamic brake resistors and four switches associated with each of the dynamic brake resistors, respectively.

3. The multistage dynamic brake resistor network according to claim 1, wherein the dynamic brake resistors are connected to and from the system bus based on a turn-on rate and a turn-off rate of the dynamic brake resistors.

4. The multi-stage dynamic brake resistor network according to claim 3, wherein the turn-on rate and the turn-off rate of the dynamic brake resistors are controlled such that a substantially constant total resistance of the dynamic brake resistors is maintained during the predetermined rotation pattern.

5. The multi-stage dynamic brake resistor network according to claim 1, wherein the switches are semiconductor switches.

6. The multi-stage dynamic brake resistor network according to claim 1, wherein the multi-stage dynamic brake resistor network further comprises at least one temperature sensor.

7. The multi-stage dynamic brake resistor network according to claim 1, wherein each of the dynamic brake resistors have a temperature

sensor associated therewith for monitoring a temperature of their respective dynamic brake resistor.

8. The multi-stage dynamic brake resistor network according to claim 7, wherein each temperature sensor associated with each dynamic brake resistor provides a signal that is compared with a predetermined temperature threshold of the dynamic brake resistor.

9. The multi-stage dynamic brake resistor network according to claim 8, wherein each signal, which is provided from each temperature sensor associated with each dynamic brake resistor, is utilized by the control circuit to connect the dynamic brake resistors to and from the system bus.

10. The multi-stage dynamic brake resistor network according to claim 1, wherein the dynamic brake resistors are arranged in parallel.

11. The multi-stage dynamic brake resistor network according to claim 1, wherein the dynamic brake resistors are connected to and from the system bus so that a substantially constant total resistance of the dynamic brake resistors is maintained during the predetermined rotation pattern.

12. A method of switching a plurality of dynamic brake resistors to and from a system bus, the method comprising:

detecting a voltage level of the system bus;

determining if the voltage level of the system bus exceeds a predetermined threshold;

switching the plurality of dynamic brake resistors to and from the system bus via switches so that the dynamic brake resistors dissipate regenerative energy inputted onto the system bus;

controlling, by a control circuit, the switches in order to connect the dynamic brake resistors to and from the system bus on the basis of a predetermined voltage threshold of the system bus and on the basis of a predetermined rotation pattern.

13. The method according to claim 12, wherein the predetermined rotation pattern is selected on the basis of a temperature of each of the dynamic brake resistors.

14. The method according to claim 12, wherein the dynamic brake resistors are connected to and from the system bus on the basis of a turn-on rate and a turn-off rate of each of the dynamic brake resistors.

15. The method according to claim 14, wherein the turn-on rate and the turn-off rate of each of the dynamic brake resistors are controlled such that a substantially constant total resistance of the dynamic brake resistors is maintained during the predetermined rotation pattern.

16. The method according to claim 12, wherein the switches are further controlled in order to connect the dynamic brake resistors to and from the system bus on the basis of a monitored temperature provided by a temperature sensor.

17. The method according to claim 12, further comprising the step of monitoring a temperature of at least one of the dynamic brake resistors with at least one temperature sensor being associated with the at least one dynamic brake resistor.